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Meta-analysis on the efficacy of foot-and-mouth disease emergency vaccination

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The objectives of this study were to provide a summary quantification of the efficacy of FMD emergency vaccination based on a systematic review and a meta-analysis of available literature, and to further discuss the suitability of this review and meta-analysis to summarize and further interpret the results. Peer-reviewed, symposium, and unpublished studies were considered in the analysis.

Clinical protection and virological protection against foot and mouth disease were used as parameters to assess the efficacy of emergency vaccination. The clinical protection was estimated based on the appearance of clinical signs including FMD lesions and fever, while the virological protection parameter was estimated based on the outcome of laboratory tests that were used to diagnose FMD infection. A meta-analysis relative risk was calculated per protection parameter. Results of the meta-analyses were examined using publication bias tests.

In total, 31 studies were included in the analyses, of which 26 were peer-reviewed studies, 1 was a symposium study and 4 were unpublished studies. Cattle, swine and sheep were well protected against clinical disease and foot-and-mouth disease infection following the use of emergency vaccine. Fortunately, no significant bias that would alter the conclusions was encountered in the analysis.

Meta-analysis showed to be a useful tool to summarize literature results from a systematic review of the efficacy of foot and mouth disease emergency vaccination.

Reference:

Halasa, T., Boklund, A., Cox, S., Enøe, C., 2011. Meta-analysis on the efficacy of foot-and-mouth disease emergency vaccination, *Prev. Vet. Med.* 98, 1-9.